On some Polydesmoid Millipeds from Surinam

by
C. A. W. JEEKEL

The Diplopod-fauna of Surinam has never been the object of a serious study and consequently the number of recorded species is very small. Descriptions of approximately a dozen species are scattered throughout the literature, but this number does not stand in any proportion to the abundance of forms we may expect in this area.

The material contained in Dutch Museums has been collected mostly during various expeditions by collectors who obviously had little acquaintance with these creatures and we cannot expect an important increase of our faunistic knowledge from these collections. Nevertheless some new and interesting forms were found in the collection of the Zoological Museum at Amsterdam, and I start here with an account of the P o l y d e s m o i d e a.

Priodesmus acus Cook. Surinam: Wilhelmina Mountains, near the Lucie River (Exp. STAHEL 1926, Coll. Dr D. L. FERNANDES), 2 ♂♂. This species was originally described from Surinam by COOK (1895, Proc. U. S. Nat. Mus. **18**: 55) after a single male specimen, and has since been recorded only by LOOMIS (1934, Smiths. Misc. Coll. **89** (14): 33), also from Surinam. Its size seems to vary considerably. The measures given by COOK are 27 mm length and 3 mm width, whereas LOOMIS mentions a female of 20 mm length. The present male specimens are

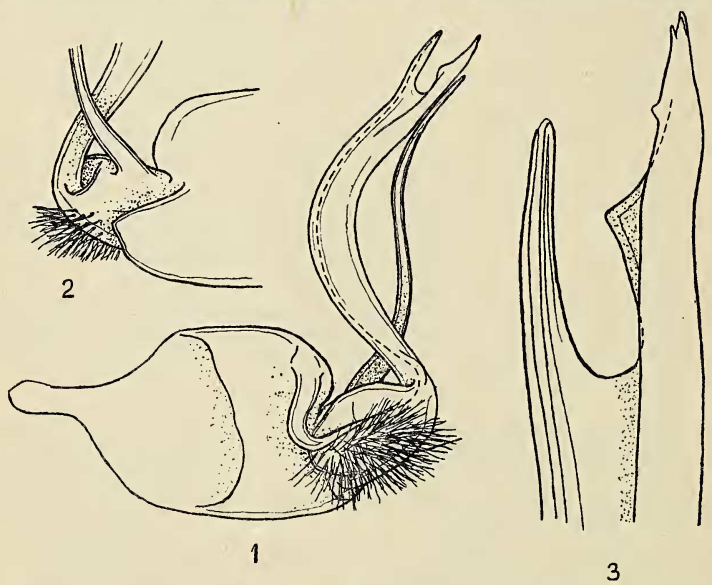


Fig. 1. *Priodesmus acus* Cook, var. *rutilipes* nov. var., gonopod from the medial side.
Fig. 2. id., proximal part of gonopod, lateral view.
Fig. 3. id., distal part of telopodite of gonopod, medial side.

larger, having a width of 3,6 mm and 3,8 mm. They agree in all essential characters with COOK's detailed description.

Priodesmus acus Cook, var. **rutilipes** var. nov. Surinam: Saramacca

River, 1932 (Coll. VAN DER SLEEN), 1 ♂. Surinam (without further indications), 4 ♂♂.

This name is proposed for specimens having the legs and the three distal joints of the antennae beautifully red orange instead of yellowish brown. These specimens are even more robust than those of the type form, having a width of 4,6 mm, and 4,3 mm, 4,3 mm, 4,4 mm, and 5,1 mm. The gonopods are identical with those of the typical *acus* specimens (fig. 1—3).

Leptherpum carinovatum (Attems), subsp. **staheli** nov. subsp. Surinam: Wilhelmina Mountains, near the Lucie River (Exp. STAHEL 1926, Coll. Dr D. L. FERNANDES), 1 ♂.

General colour indian red, ventral side paler, antennae and distal joints of the legs yellowish white.

Width of 3rd segment 9,8 mm, of middle segments 8,5 mm.

Lateral and anterior part of the head below the antennae set with relatively short bristles. Vertex with distinct sulcus, at each side of which one bristle.

Collum broad, laterally depressed and like the rest of the dorsum hairless. Anterior border broadly rounded, laterally marginated. Posterior border straight, but in the middle rather deeply emarginate. 2nd and 3rd segment also medially emarginated, but in a less degree. Prozonites of bodysegments dull, very finely punctulated. Suture rather broad, smooth. Metatergites granulated, except the anterior and lateral margins of the keels. Granules subequal, no rows of larger granules as described for *carinovatum* and *hübneri*. On first tergites and collum the granulation changes in a leathery wrinkling. Metatergites of middle segments with a very slight transverse depression. Posterior margin of segments fringed.

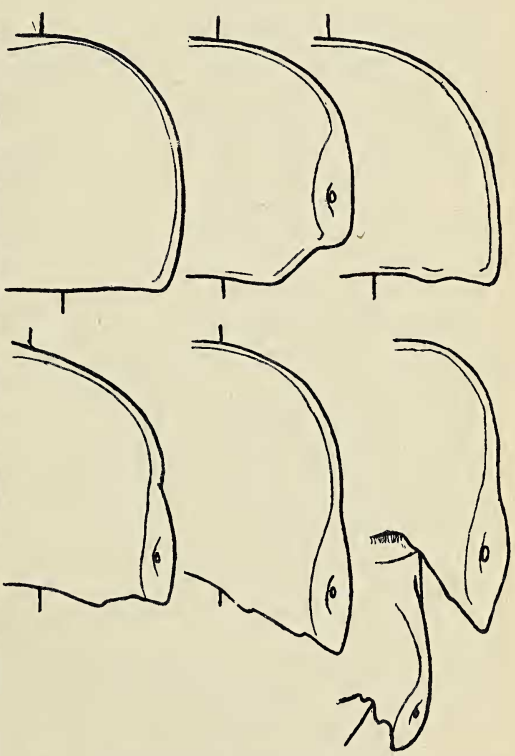


Fig. 4. *Leptherpum carinovatum* (Attems), subsp. *staheli* nov. subsp., lateral keels of segments 6, 7, 11, 13, 16, 18 and 19 from the dorsal side (the granulation is ommitted).

Lateral keels strongly developed, at a high level. Keels of second segment depressed, of following segments, less so, and from about the 6th segment almost horizontal. Dorsum only weakly arched. Anterior margins of keels broadly rounded. Posterior angle of poreless keels almost rectangular up to 6th segment, becoming more acute on segments 8, 11 and 14. Porebearing keels of

segments 5, 7, 9 and 10 each with almost equally shaped large obtuse tooth on the posterior border. On the following poriferous segments this tooth is gradually diminishing in size, and a smaller tooth appears more medially. Poreless keels have only indications of these tooths. Anterior and lateral border of the keels marginated. Poriferous segments with long elliptical pore-callusses, pores latero-dorsal in a slight excavation.

Sides of metazonites granulated. Pleural keels well developed on segments 4 to 6, consisting of a row of 5 to 7 subequal conical tubercules. From segment 7 to 16 only a row of 2 to 4 of these tubercules on a swelling above the first pair of legs of each segment. On last segments only the swelling present.

Sternites broad, bristled, only transversely furrowed by a medially disappearing groove. Near the base of each leg from about 9th segment onwards a caudally directed cone, increasing in strength on posterior segments and becoming more sharply pointed. On each segment the two posterior cones are more strongly developed than the anterior ones.

Legs long, bristled, without particulars. Tarsus 1½ to 2 times as long as tibia.

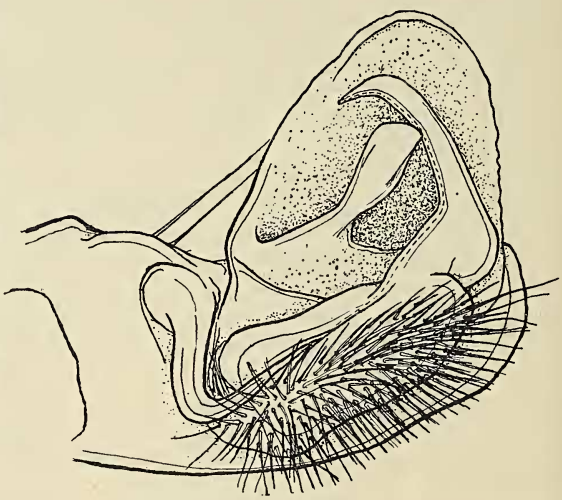


Fig. 5. *Leptherpum carinovatum* (Attems), subsp. *staheli* nov. subsp., gonopod from the medial side.

Anal scale triangular. The two bristles on small slightly projecting tubercules. Anal valves with narrow raised margins. Tail slender, cylindrical.

Gonopods as in *carinovatum*, but the inner branch of the prefemoral process longer (fig. 5).

The present form seems to be more or less intermediate between *Leptherpum carinovatum* (Attems, 1898, Denkschr. Ak. Wien **67** : 376, pl. 6, fig. 127—129, pl. 7, fig. 154) and *L. hübneri* (Attems, 1901, Mitt. Mus. Hamburg **18** : 93, pl. 2, fig. 22—23) known respectively from Manaos and Southern Venezuela. It differs from both in having 2 hairs on the vertex, in missing rows of larger tubercules on the metazonites and in the shape of the lateral keels. Like *hübneri* it has cones near the base of each leg of the posterior half of the body, whereas *carinovatum* has only cones at the base of the posterior legs of each segment. *Staheli* agrees with *carinovatum* in the absence of spines on the second joint of the legs. *Hübneri* has spines from the 8th leg onward and is a larger form (width 12 mm).

The gonopods of the three forms are very similar. The inner branch of the prefemoral process is longer than in *carinovatum* (cfr. fig. 104 of Attems, Tierreich **69**) although not as long as in *hübneri*.

Aphelidesmus **convexus** nov. spec. Surinam : Wilhelmina Mountains, near the Lucie River (Exp. STAHEL 1926, Coll. Dr D. L. FERNANDES), 6 ♂♂, 4 ♀♀.

General colour of various specimens chocolate brown to chestnut. Antennae, sternites, legs, lateral keels and tail yellowish white to yellow.

Width of male specimens 6,0 to 6,3 mm., of female specimens 6,3 to 6,7 mm.

Head with hairless vertex. Vertical sulcus deep, dividing in two branches between the antennae. A slight frontal swelling embraced by these branches bears two tufts of setae. Clypeus with 6 plus 4 tufts. Antennae rather short, subclavate, especially the distal joints densely pubescent. Joints 2 to 5 inclusive subequal in length, 6th joint slightly longer.

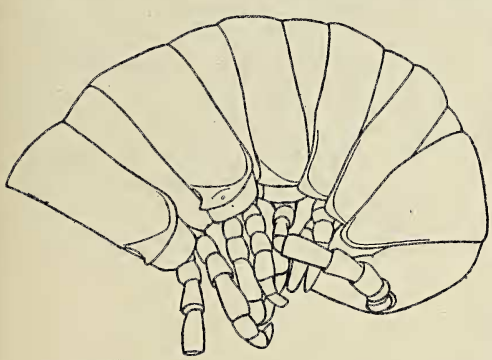


Fig. 6. *Aphelidesmus convexus* nov. spec., anterior part of male holotype.

Collum laterally narrowed and asymmetrically rounded, in female specimens somewhat more broadly rounded than in males. Lateral border marginated (fig. 6).

Segments weakly constricted, especially in female specimens. Suture narrow, finely and weakly beaded. Prozonites smooth, dull. Metatergites leathery wrinkled, without transverse furrow.

Lateral keels well developed, but of moderate width, on a low level, strongly depressed on segments 2 and 3, less so on following segments but still somewhat tended in a ventral direction, especially in females. Anterior margins rounded, and like the posterior margins notched by a fine granulation. Keels from 4th segment onward posteriorly ending in an acute angle, projecting behind the posterior border of the metazonite, in last segments about one third to a half the length of the metazonite behind its posterior border. Lateral margin of keels thickened, the marginal sulcus paralleling the margin to about halfway, then bending in an oblique medial direction. Poriferous keels slightly thicker than poreless keels. Pores lateral in a slight excavation.

Sides of metazonites granulated, on segments of posterior part of the body only along the posterior border.

Sternites narrow, with deep cross impressions, hairless. At the base of each leg a blunt cone. Legs of moderate length, tarsus longer than tibia. Joints 1 to 4 inclusive with one ventral bristle each, tibia with some bristles at its distal end, tarsus rather densely pubescent.

Tail broad, parabolically rounded, with 5 very slight incisions. Anal scale broadly rounded, anal valves with raised margins.

Opening of gonopods laterally and posteriorly raised.

Coxa of gonopod large, the projecting distal part abruptly narrowed. A field of bristles on the medio-caudal side, a few bristles on the lateral side. Prefemur short, not very densely covered with setae. The lateral side is partly covered by the distal part of the coxa. Femur long in com-

parison with other species of the genus, curved in a posterior direction. Tibiotarsus leaflike, dividing laterally into two lamellae (a and b) and medially into two lamellae (c and d) which are sheathing the distal part of the flagelliform solenomerite. In addition a small lamella at the mediodistal end of the tibiotarsus (e). See further fig. 7—9.

The present form is easily distinguished from all other better known species of *Aphelidesmus* by the long curved femur of the gonopods, and by the coriaceous metazonites. Brölemann (1903, Rev. Mus. Paul. **6** : 77) has described an *Aphelidesmus elongatus* (Bröl.) from Manaos that seems to have considerable superficial resemblance with *convexus*. The male of *elongatus* is unknown and thus its relation with *convexus* cannot be determined.

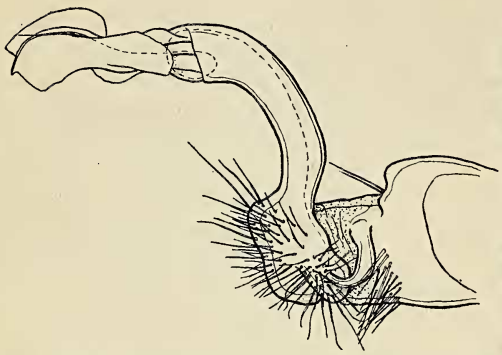


Fig. 7. *Aphelidesmus convexus* nov. spec., gonopod of male holotype, medial view.

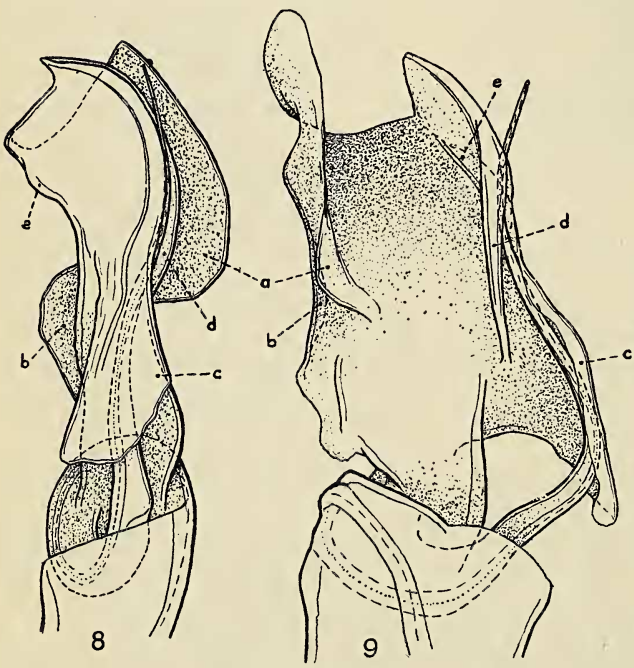


Fig. 8. *Aphelidesmus convexus* nov. spec., tibiotarsus of gonopod of male holotype, medial view. — Fig. 9. id., tibiotarsus of opposite gonopod of a paratype male, anterior side. a and b: lateral lamellae of tibiotarsus, c and d: medial lamellae, e: small distal lamella.

Aphelidesmus **surinamensis** nov. spec. Surinam : 1888 (Coll. J. de Vries), 1 ♂, 2 ♀,♀.

Apparently very close to *A. bellus* Attems (1937, Tierreich **68** : 135, fig. 173) from Brasil, from which it differs in the following characters :

surinamensis nov.
Width ♂ 4,8 mm, ♀ 5,3—5,5 mm.
Colour of prozonites and anterior part of metazonites greyish, posterior part of metazonites yellowish brown. Lateral keels, antennae and distal joints of the legs orange red. Ventral side pale.
Sides of collum rather narrow and symmetrically rounded (fig. 10).

Gonopods (fig. 11, 12) with coxa rather small and slender, a few bristles at the base. Prefemur short, partly covered by the coxa on the lateral side. Femur long and straight, distal end thicker than proximal end. Tibiotarsus complicated, curving forward, sheathing the solenomerite almost completely. The main difference with *bellus* seems to be the position of the lateral branch (a), that is situated more towards the base of the tibiotarsus, whereas in *bellus* it is about halfway. The basal lobe of the tibiotarsus is notched, but has no small cones, as described for *bellus*.

bellus Att.
Width ♂ 7,7 mm.

Colour dark brown, a round median spot on the posterior part of the metazonites pale yellowish brown. Antennae and keels bloodred. Legs brownish yellow.

Sides of collum broadly rounded, posterior margin emarginate.

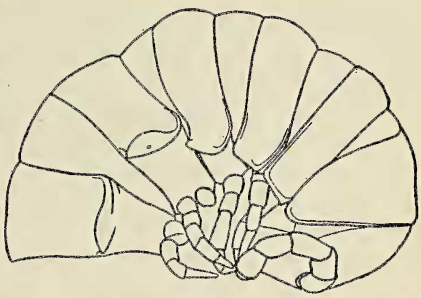
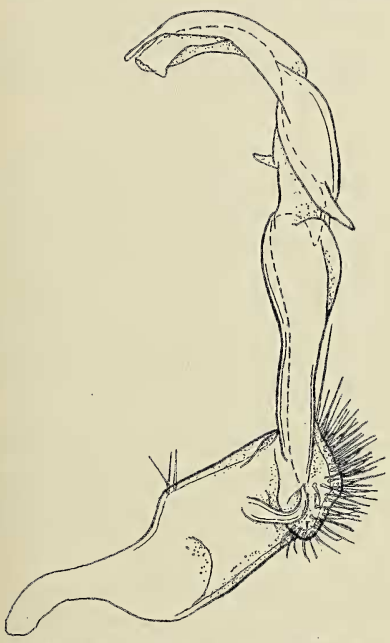


Fig. 10. *Aphelidesmus surinamensis* nov. spec., anterier part of female allotype.



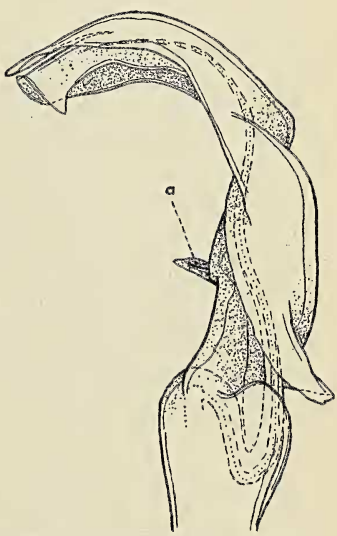


Fig. 11. *Aphelidesmus surinamensis* nov. spec., gonopod of holotype, from the medial side. — Fig. 12. id., tibiotarsus of same, a: lateral branch.

In other details the specimens of *surinamensis* follow closely the description of *bellus*. The three specimens I had to my disposition were in a rather poor state of preservation, and one of the gonopods of the single male had been broken off, so that these could not be studied as might be wished.

Haarlem, Crayenesterlaan 32, December 1949.

Monstruositeiten bij insecten, niet uit kweek geboren

door

D. MAC GILLAVRY

Meermalen heb ik monstruositeiten of teratologische insecten gesignaleerd, die ik in de natuur aantrof. De exx., die ik bijeen bracht door schenking van anderen, of door eigen vangst, heb ik indertijd aan het Amsterdamse Entomologische Museum toevertrouwd, om als kern voor een teratologische insecten-collectie te dienen.

Nu trof mij een opmerking in een entomologische publicatie, dat dergelijke afwijkingen zo vaak bij Diptera zouden voorkomen. Sinds die tijd let ik daar speciaal op, maar veelal ontbreekt mij de gelegenheid tot vangen, daar ik zelden meer vangmateriaal bij mij heb en ik ook niet meer de vlugheid bezit uit mijn jeugd. Toch breng ik dit onderwerp weer eens onder de aandacht van de jongeren, daar de teratologie der insecten nog veel mysteries bergt en het goed is dergelijk materiaal te verenigen om voor een eventuele bewerker vergelijkingsmateriaal ter beschikking te stellen.

Ter illustratie van het bovenstaande een paar toevallige waarnemingen. Tweemaal zag ik vliegen, die, doordat aan één zijde de vleugel ontbrak, bij hun steeds herhaalde pogingen om op te vliegen allerlei capriolen maakten. Tenslotte trachtten zij dan iets te vinden om tegen op te klauteren en dan van die hogere standplaats weg te vliegen. Dan kapsijsden zij onmiddellijk en kwamen gewoonlijk op hun rug terecht. Het omkeren om weer op de been te komen lukte slecht, tenzij ze met een poot wat konden bereiken en zo een steunpunt vonden, waarop de tragicomedie zich herhaalde. Het vlieginstinct is derhalve bij deze invalide geborenen even goed ontwikkeld als bij hun valide broers en zusters.

Dezer dagen kwam in mijn gezichtsveld een klein vliegje van ongeveer 3 mm, dat, overigens normaal, toch mijn aandacht trok door iets bizonders. Bij nader bekijken bleek de linkervoorpoot sterk gereduceerd, zodat het geleek of het diertje een te grote extra palp bezat, doordat het deze poot vlak onder de kop hield. Dit kon ik zien, doordat het vliegje zich iets gedraaid had. Tevens zag ik, dat femur, tibia en tars evenredig verkort waren. Helaas vloog het toen op. In afwijking van de hardnekkigheid, waarmee de meeste kamervliegen steeds weer op dezelfde plek terugkomen, heb ik het dier niet meer terug gezien.

In elk geval : deze paar voorbeelden zijn wel een bewijs, dat inderdaad bij Diptera zeer veel waar te nemen zal zijn op dit gebied en niet alleen bij Lepidoptera, Coleoptera, Forficulidae en Hymenoptera, waarvan telkens voorbeelden in onze literatuur vermeld worden.

Amerongen, Rusthuis „Charlois", 1 Dec. 1949.